Amendment to the Claims:

Claims 1-53 (Canceled)

54. (New) A method of deactivating a pathogenic chemical agent comprising:

subjecting the pathogenic chemical agent to a peroxide in the form of a vapor and a nitrogen containing compound in the form of a gas, a ratio of the peroxide to the nitrogen containing compound being between 1:1 and 1:0.0001, the nitrogen containing compound being of the general formula:

$$R_1\text{-}N\text{-}R_2$$
$$|$$
$$R_3$$

where R_1, R_2, and R_3 independently are selected from H and an alkyl group.

55. (New) The method as set forth in claim 54, wherein:
the peroxide includes hydrogen peroxide.

56. (New) The method as set forth in claim 54, wherein:
the peroxide is in the form of a vapor.

57. (New) The method as set forth in claim 56, further including:
vaporizing a liquid peroxide compound to form a peroxide vapor.

58. (New) The method as set forth in claim 54, wherein:
the nitrogen containing compound includes ammonia.

59. (New) The method as set forth in claim 54, wherein:
the nitrogen containing compound includes an alkyl amine.

60. (New) The method as set forth in claim 54, wherein:

the ammonia gas and the hydrogen peroxide vapor is present in a ratio of between 1:1 and 0.0001:1.0.

61. (New) The method as set forth in claim 54, wherein:

the nitrogen containing compound and peroxide is in the form of a gaseous mixture.

62. (New) The method as set forth in claim 61, wherein:

the nitrogen containing compound is at a concentration of at least 1 ppm in the gaseous mixture.

63. (New) The method as set forth in claim 62, wherein:

the nitrogen containing compound concentration is less than about 100 ppm.

64. (New) The method as set forth in claim 63, wherein:

the nitrogen containing compound concentration is at least about 3 ppm in the gaseous mixture and less than about 20 ppm.

65. (New) The method as set forth in claim 64, wherein:

the nitrogen containing compound includes ammonia at a concentration of about 8 ppm.

66. (New) The method as set forth in claim 61, wherein:

the peroxide is at a concentration of at least 50 ppm in the gaseous mixture.

67. (New) The method as set forth in claim 61, wherein:

the peroxide is at a concentration of less than 1000 ppm in the gaseous mixture.

68. (New) The method as set forth in claim 67, wherein:

the peroxide is at a concentration of at least 400-800 ppm in the gaseous mixture.

69. (New) The method as set forth in claim 68, wherein:

the nitrogen containing compound includes ammonia at a concentration of from about 3-20 ppm.

70. (New) The method as set forth in claim 69, wherein:

the temperature is about 23-25°C.

71. (New) The method as set forth in claim 69, wherein:

the peroxide includes hydrogen peroxide at a concentration of about 600 ppm in the gaseous mixture.

72. (New) The method as set forth in claim 71, wherein:

the nitrogen containing compound includes ammonia at a concentration of about 8 ppm in the gaseous mixture.

73. (New) The method as set forth in claim 66, wherein:

the peroxide concentration is at least about 200 ppm in the gaseous mixture.

74. (New) The method as set forth in claim 61, wherein:

the gaseous mixture further including a carrier gas.

75. (New) The method as set forth in claim 74, wherein:

the carrier gas includes air.

76. (New) The method as set forth in claim 54, wherein:

the chemical agent includes at least one of G-type, V-type, and H-type chemical agents, and combinations thereof.

77. (New) The method as set forth in claim 76, wherein the chemical agent includes a G-type chemical agent and the method further includes:

contacting the pathogenic chemical agent with the nitrogen containing compound and peroxide for sufficient time to reduce the G-type agent to a level of less than 1% of its original concentration.

78. (New) The method as set forth in claim 77, wherein:

the contacting time is up to about six hours.

79. (New) The method as set forth in claim 54, further including:

maintaining the temperature during the step of subjecting at from about 15°C to about 30°C.

80. (New) The method as set forth in claim 54, wherein the nitrogen containing compound is a liquid and the method further includes:

vaporizing the liquid in a vaporizer.

81. (New) An apparatus for deactivating a pathogenic chemical agent comprising:

means for subjecting the pathogenic chemical agent to a peroxide in the form of a vapor and a nitrogen containing compound in the form of a gas, a ratio of the peroxide to the nitrogen containing compound being between 1:1 and 1:0.0001, the nitrogen containing compound being of the general formula:

$$R_1\text{-}N\text{-}R_2$$
$$\quad\quad|$$
$$\quad\quad R_3$$

where R_1, R_2, and R_3 independently are selected from H and an alkyl group.

82. (New) The apparatus as set forth in claim 80, wherein the subjecting means includes:

a vaporizer for vaporizing a peroxide liquid,

a supply of the nitrogen-containing compound, and

a mixing region for mixing the nitrogen containing compound and vapor.

83. (New) The apparatus as set forth in claim 82 wherein:

means for injecting hydrogen peroxide to the vaporizer at a rate of 0.4-0.5 grams/minute.

84. (New) The apparatus as set forth in claim 82, wherein:

the mixing region is at an entrance of an enclosure in which the pathogenic chemical agent is disposed.

85. (New) The apparatus as set forth in claim 84, including:

a liquid hydrogen peroxide source for supplying liquid hydrogen peroxide to the vaporizer, and

wherein the supply **(32)** of nitrogen containing compound includes a compressed ammonia gas tank.

86. (New) The apparatus as set forth in claim 85, including:

a control means which controls a rate of supplying the hydrogen peroxide to the vaporizer and a rate of supplying the ammonia gas to form a mixture in which a concentration of ammonia is at least 1 ppm.

87. (New) The apparatus as set forth in claim 82, wherein the nitrogen containing compound includes a liquid, and further including:

a mister for forming a mist of the liquid nitrogen containing compound.

88. (New) The apparatus as set forth in claim 82, further including:

a chamber connected with the mixing region for receiving items contaminated with the pathogenic chemical agent.

89. (New) The apparatus as set forth in claim 82, wherein the subjecting means includes:

a means for atomizing or vaporizing an alkaline liquid to form the nitrogen containing compound.

90. (New) The apparatus as set forth in claim 89, further including:

a peroxide vaporizing means which generates a vapor or mist containing the peroxide; and

a chamber connected with the atomizing or vaporizing means for receiving the vapor or mist.

91. (New) A method for decontamination of an item contaminated with GD, the method comprising:

contacting the item in an enclosure with a vapor containing a peroxide and ammonia for sufficient time to reduce the concentration of GD to less than about 1% of its initial concentration, the time for the concentration to reach 1% of its initial concentration being less than 6 hrs.

92. (New) A method of deactivating a pathogenic chemical agent comprising:

forming a peroxide vapor;

increasing the pH of the vapor with a pH-increasing compound;

subjecting the pathogenic chemical agent to the peroxide at the increased pH for sufficient time to deactivate the chemical agent.

93. (New) The method as set forth in claim 92, wherein the peroxide includes hydrogen peroxide and the pH-increasing compound includes ammonia.

94. (New) The method as set forth in claim 93, wherein the hydrogen peroxide is at a concentration of from about 200-800 ppm and the ammonia is at a concentration of from 3-40 ppm.

95. (New) The method as set forth in claim 94, wherein the temperature is room temperature.

96. (New) A method of deactivating a biologically active substance comprising:

subjecting the biologically active substance to a mixture of a strong oxidant compound and an alkaline compound, both in a gaseous form.

97. (New) The method as set forth in claim 96, wherein:

the alkaline compound in gaseous form includes a mist formed by atomizing a liquid alkaline compound.

98. (New) The method as set forth in claim 96, wherein:

the strong oxidant includes a peroxy compound.

99. (New) The method as set forth in claim 98, further including:

vaporizing a liquid peroxy compound to form a peroxy vapor.

100. (New) The method as set forth in claim 96, wherein:

the alkaline compound includes at least one of ammonia and a short chain alkyl amine.

101. (New) The method as set forth in claim 96, wherein:

the peroxy compound includes hydrogen peroxide.

102. (New) The method as set forth in claim 96, wherein:

the biologically active substance includes one or more of chemical agents, pathogens, prions, and biotoxins.

103. (New) The method as set forth in claim 102, wherein:

the biologically active substance includes G-type nerve agents.

104. (New) The method as set forth in claim 50, wherein:

the ammonia gas and the hydrogen peroxide vapor is present in a ratio of between 1:1 and 0.0001:1.0.